

CLAIMS

We claim:

1. A method of identifying a portion of computer program code as a candidate for a modification, said method comprising the steps of :
 - scanning and parsing source code corresponding to the computer program code to determine static information concerning the computer program code;
 - storing the static information in a database;
 - collecting dynamic information concerning the computer program code during an execution of the computer program code;
 - storing the dynamic information in the database;
 - developing relationships and dependencies responsive to the static information and dynamic information stored in database;
 - storing the relationships and dependencies in the database; and
 - providing for a query of the database to produce a set of potential candidates of computer program code meeting a constraint of the query.

2. The method of claim 1 wherein if insufficient candidates are returned by the query, then providing for a relaxing of the constraint, and a repetition of the query.

3. The method of claim 2 further comprising the step of identifying a portion of the computer program code as a candidate for re-implementation as a database stored procedure call.

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1 4. The method of claim 3 wherein the query searches the database for a portion of the
2 computer program code having static information indicating that the portion of the computer
3 program code contains a call to a database management system, and having dynamic
4 information indicating that the portion of the computer program code is subject to a call by
5 another portion of computer program code.

1 5. The method of claim 4 wherein the query searches the database for a portion of the
2 computer program code having static information indicating that the portion of the computer
3 program code contains a number, above a specified first threshold, of calls to a database
4 management system, and having dynamic information indicating that the portion of the
5 computer program code is subject to a number of calls, above a specified second threshold, by
another portion of computer program code.

1 6. The method of claim 2 further comprising the step of identifying a portion of the
computer program code as a candidate for re-implementation as a Web-enabling interface call.

1 7. The method of claim 6 wherein the query searches the database for a portion of the
computer program code having static information indicating that the portion of the computer
3 program code contains a transaction call.

1 8. The method of claim 7 wherein the query also searches the database for a portion of the
computer program code having static information indicating that the portion of the computer
3 program does not contain screen output related program code.

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1 9. An article of manufacture for use in a computer system for identifying a portion of
2 computer program code as a candidate for a modification, said article of manufacture
3 comprising a computer-readable storage medium having a computer program embodied in said
4 medium which causes the computer system to execute a method comprising the steps of:
5 scanning and parsing source code corresponding to the computer program code
6 to determine static information concerning the computer program code;
7 storing the static information in a database;
8 collecting dynamic information concerning the computer program code during
9 an execution of the computer program code;
10 storing the dynamic information in the database;
11 developing relationships and dependencies responsive to the static information
12 and dynamic information stored in database;
13 storing the relationships and dependencies in the database; and
14 providing for a query of the database to produce a set of potential candidates of
15 computer program code meeting a constraint of the query.

10. The article of manufacture of claim 9 wherein if insufficient candidates are returned by
the query, then providing for a relaxing of the constraint, and a repetition of the query.

1 11. The article of manufacture of claim 10 wherein the embodied computer program
2 causes the computer system to execute the method step of identifying a portion of the
3 computer program code as a candidate for re-implementation as a database stored procedure
4 call.

1 12. The article of manufacture of claim 11 wherein the query searches the database for a
2 portion of the computer program code having static information indicating that the portion of
3 the computer program code contains a call to a database management system, and having
4 dynamic information indicating that the portion of the computer program code is subject to a
5 call by another portion of computer program code.

1 13. The article of manufacture of claim 12 wherein the query searches the database for a
2 portion of the computer program code having static information indicating that the portion of
3 the computer program code contains a number, above a specified first threshold, of calls to a
4 database management system, and having dynamic information indicating that the portion of
5 the computer program code is subject to a number of calls, above a specified second threshold,
6 by another portion of computer program code.

1 14. The article of manufacture of claim 10 wherein the embodied computer program
2 causes the computer system to execute the method step of identifying a portion of the
3 computer program code as a candidate for re-implementation as a Web-enabling interface call.

1 15. The article of manufacture of claim 14 wherein the query searches the database for a
2 portion of the computer program code having static information indicating that the portion of
3 the computer program code contains a transaction call.

1 16. The article of manufacture of claim 15 wherein the query also searches the database for
2 a portion of the computer program code having static information indicating that the portion of
3 the computer program does not contain screen output related program code.

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1 17. A computer system for identifying a portion of computer program code as a candidate
2 for a modification, said computer system comprising :

3 a parser for scanning and parsing source code corresponding to the computer
4 program code to determine static information concerning the computer program code;

5 an execution monitor for collecting dynamic information concerning the
6 computer program code during an execution of the computer program code;

7 relationships and dependencies developed responsive to the static information
8 and dynamic information;

9 a database for storing the static information, the dynamic information, and the
10 relationships and dependencies; and

11 a query of the database to produce a set of potential candidates of computer
12 program code meeting a constraint of the query.

1 18. The computer system of claim 17 wherein if insufficient candidates are returned by the
2 query, then providing for a relaxing of the constraint, and a repetition of the query.

1 19. The computer system of claim 18 further comprising an identification of a portion of
2 the computer program code as a candidate for re-implementation as a database stored procedure
3 call.

1 20. The computer system of claim 19 wherein the query searches the database for a portion
2 of the computer program code having static information indicating that the portion of the
3 computer program code contains a call to a database management system, and having dynamic
4 information indicating that the portion of the computer program code is subject to a call by
5 another portion of computer program code.

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1 21. The computer system of claim 20 wherein the query searches the database for a portion
2 of the computer program code having static information indicating that the portion of the
3 computer program code contains a number, above a specified first threshold, of calls to a
4 database management system, and having dynamic information indicating that the portion of
5 the computer program code is subject to a number of calls, above a specified second threshold,
6 by another portion of computer program code.

1 22. The computer system of claim 18 further comprising an identification of a portion of
2 the computer program code as a candidate for re-implementation as a Web-enabling interface
3 call.

1 23. The computer system of claim 22 wherein the query searches the database for a portion
2 of the computer program code having static information indicating that the portion of the
3 computer program code contains a transaction call.

1 24. The computer system of claim 23 wherein the query also searches the database for a
2 portion of the computer program code having static information indicating that the portion of
3 the computer program does not contain screen output related program code.